

REMARKS

Claims 1-13 and 34-40 are pending in this application. In this Response, Applicants have amended certain claims. In light of the Office Action, Applicants believe these amendments serve a useful clarification purpose, and are desirable for clarification purposes, independent of patentability. Accordingly, Applicants respectfully submit that the claim amendments do not limit the range of any permissible equivalents.

In particular, independent claims 1 and 34 have been rewritten to further clarify the invention. In addition, various claims depending therefrom have been amended or canceled to maintain consistency with the independent claims.

As no new matter has been added by the amendments herein, Applicants respectfully request entry of these amendments at this time.

DOUBLE PATENTING REJECTION

Claims 1-12 were rejected under the judicially created doctrine of obviousness-type double patenting based on claims 1-11 and 13-15 of U.S. Patent No. 6,093,357 to Bissonnette *et al.* Applicants submit herewith a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c) in order to overcome the double patenting rejection. As such, Applicants respectfully request that the double patenting rejection be withdrawn.

THE REJECTIONS UNDER 35 U.S.C. § 112

Claim 7 was rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth on page 2 of the Office Action. In addition, claims 1-13 and 34-40 was rejected under § 112, second paragraph, as being indefinite for the reasons stated on pages 3-4 of the Office Action.

With regard to claim 7, Applicants respectfully submit that the claim contains subject matter that is described in the specification in such a way to reasonably convey to a skilled artisan that the inventor had possession of the claimed invention. In particular, the Written Description explains that a benefit of the present invention is a substantially improved concentricity of the mantle in relation to the core. Page 17, lines 30-34. One of ordinary skill in the art would recognize that claim 7 is a way to claim the more accurate centering of the ball. Page 17, line 34 to Page 18, line 2. Thus, Applicants respectfully request that the Examiner reconsider and withdraw the §112, first and second paragraphs, rejection of the claim.

With regard to the use of the term “sufficient rigidity” in claim 1, Applicants have rewritten the claim to remove the first reference to “rigidity” in order to make the claim more clear for the Examiner. Claim 34, which was also rejected by the Examiner based on the same rationale, does not include a first reference to “rigidity.” As such, Applicants respectfully submit that claim 34 is clear in its current form.

Claims 1 and 34 have also been rewritten to clarify the term “at least two shells” in the independent claims. In addition, claim 12 has been rewritten in a similar way.

With regard to the use of “a ball core” in claim 1, this claim has been amended to remove any clarity issues for the Examiner. Claim 11 has also been similarly amended. With regard to this rejection for claim 34, however, Applicants respectfully submit that the term “a ball core” does not appear in the claim.

As to the Examiner’s rejections of claims 2 and 6, these claims have been rewritten in an effort to clarify the issues of concern to the Examiner.

With regard to the phrase “adjusting the tensile storage modulus” in claim 9, Applicants have rewritten this claim in order to clarify that the tensile storage modulus values recited therein refer to the first mixture once crosslinked. *See, e.g.*, Written Description at Page 17, lines 1-10. In addition, with regard to the phrases “the melting temperature” and “the crosslinking temperature” recited in claim 10, Applicants have amended claim 10 in a manner that only recites the melting temperature of the reinforcing polymer component, which is supported in the Written Description at Page 10, lines 24-29.

Finally, with regard to the Examiner’s rejection of claims 11 and 39 for reciting improper Markush groups, Applicants respectfully submit that neither claim was intended to contain, nor contains, a Markush group. As the Examiner is aware, a Markush group recites members as being “selected from the group consisting of A, B, and C.” *See Ex Parte Markush*, 1925 C.D. 126. The term “selected” in a claim, as present in claim 11, does not automatically imply a Markush group. Despite the absence of a Markush group in claim 11, however, Applicants have amended this claim to clarify the subject matter claimed therein.

Also, while the use of “comprising” in a Markush group is improper, the transition language used in claim 39, *i.e.*, “comprises,” is not functioning as a Markush grouping, but rather as a well recognized term of art. In fact, the transitional phrase “comprises” in claim 39 is merely defining the scope of the claim in a way that is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

In light of the amendments and explanations provided above, Applicants respectfully submit that the various § 112 rejections of the claims are overcome or, in the alternative, subject to reconsideration and withdrawal by the Examiner.

THE REJECTION UNDER 35 U.S.C. §§ 102 & 103

Claims 1, 4, 7, 10-13, and 34-40 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,184,828 to Kim *et al.* In addition, claims 2-3, 5-6, and 8-9 were rejected under § 103(a) as obvious over Kim for the reasons provided on pages 5-6 of the Office Action. Kim does not disclose or suggest the present invention for the reasons that follow.

Kim generally discloses a solid three-piece golf ball with an inner core and outer layer that includes a rubber base, a co-crosslinking agent, filler, a polymerization initiator, an antioxidant, and the like. Col. 3, lines 65-67. While Kim generally mentions the use of isoprene rubber as an optional additive to the base rubber, there is no suggestion to use the isoprene rubber as a reinforcing polymer component, as presently claimed. Col. 3, line 67 to Col. 4, line 2. In fact, Kim is completely silent as to the use of an isoprene rubber having a high flexural rigidity prior to being crosslinked.

In contrast, the reinforcing component of the present invention must impart a degree of rigidity to the shells sufficient to maintain the desired shape until the first mixture is crosslinked. Page 12, lines 1-2. In other words, the reinforcing polymer component presently claimed has to be stiff initially, *i.e.*, prior to crosslinking, to lead to an uncrosslinked mixture having the flexural modulus presently recited. Kim does not specify a specific species of the isoprene rubber and, as recognized by those of ordinary skill in the art, not all isoprene rubbers are the same. Thus, Kim's uncrosslinked mixture does not inherently have a flexural modulus of greater than about 3.5 MPa, as presently claimed.

The Examiner suggested that, if it is Applicants' position that Kim's uncrosslinked mixture does not inherently have a flexural modulus of greater than about 3.5 MPa, evidence needs to be submitted to support this position. As such, Applicants respectfully submit that, if one were to use cis-isoprene rubber in combination with a polybutadiene rubber based on Kim's teaching, the result would be a mixture of polybutadiene and a gum-like rubber, which would produce an uncrosslinked mixture having a flexural modulus drastically lower than presently claimed. As demonstrated by Examples 10-12, the flexural modulus of the uncrosslinked mantle composition is highly dependent on the amount of reinforcing polymer

component. *See* Page 20. In addition, as explained in the Written Description, the formulations that did not contain a reinforcing polymer component had insufficient rigidity to form flexure bars, which prevented a determination of the flexural modulus. *Id.* Similarly, Kim's formulations provided in Table 1 would have insufficient rigidity to form flexure bars. And, even if one were to use isoprene in the outer layer of Table 1 based on Kim's general suggestion to use isoprene in combination with polybutadiene, it is not inherent that the flexural modulus would be greater than about 3.5 MPa as this would be greatly dependent on the type and amount of isoprene used.

In addition, the Examiner stated that, if it is Applicants' position that Kim's uncrosslinked mixture does not inherently have a flexural modulus of greater than 3.5 MPa, the Examiner's position would be that the application contains inadequate disclosure because there is no teaching as to how to obtain the claimed properties and effects by carrying out only the claimed steps. The Written Description provides numerous examples with suitable materials, and amounts thereof, useful for the centers and mantles of the present invention. *See, e.g.*, Page 19. In addition, Examples 10-12 provide an ASTM method for measurement of the flexural modulus and the resulting flexural modulus value using the ASTM method for three examples with varying amounts of reinforcing component. See Examples 10-12 at Page 20. Furthermore, Examples 13-15 show the concentricity of balls made according to the present invention (Examples 14-15) compared to the off-center golf balls made in the conventional way (Example 13), such as described by Kim. Finally, the Written Description provides mixing temperatures, appropriate molding conditions, and resulting benefits of the balls of the invention. Thus, Applicants respectfully disagree with the Examiner's position that the application is somehow inadequate in its teaching.

In addition to Kim's lack of teaching of a reinforcing polymer component, Kim is also completely silent as to the formation of a plurality of shells, as presently recited in the claims. For instance, while Kim's Example 1 generally discusses covering an inner core with hemispherical "premold outer layers" in a mold (Col. 7, lines 7-10), the outer layer formulation lacks a reinforcing polymer component (Table 1). As such, the "premold outer layers" will not retain their shape when molded. In essence, the hemispherical nature of the premold will flatten around the inner core when molded producing a top and bottom cap for the inner core instead of enclosing the inner core.

Moreover, because the "premold outer layers" cannot be assembled concentrically about the center to form a first mantle layer, Kim does not disclose or suggest the presently

recited "assembling" step. In fact, a conventional ball, such as prepared using Kim's formulations and methods, results in an off-center ball as demonstrated in Example 13. In contrast, a golf ball prepared using the method and formulations of the present invention (Examples 14-15) has improved concentricity as compared to the conventional ball. Written Description at Page 21.

For the reasons above, Applicants respectfully submit that Kim does not anticipate or render obvious the present invention. As such, Applicants respectfully request reconsideration and withdrawal of the rejection based thereon.

CONCLUSION

All claims are believed to be in condition for allowance. If the Examiner believes that the present amendments still do not resolve all of the issues regarding patentability of the pending claims, Applicants invite the Examiner to contact the undersigned attorneys to discuss any remaining issues.

A Petition for Extension of Time is submitted herewith to extend the time for response two months to and including August 11, 2005. No other fees are believed to be due at this time. Should any fee be required, however, please charge such fee to Swidler Berlin LLP Deposit Account No. 195127, Order No. 20002.0380.

Respectfully submitted,
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